Effective Health Care

Borderline Personality Disorder

Results of Topic Selection Process & Next Steps

The nominator, the American Psychiatric Association (APA), is interested in a new systematic review examining the effectiveness of non-pharmacological treatments, pharmacological treatments, and combination treatments for adults with Borderline Personality Disorder (BPD). The APA is also interested in whether the effectiveness of these treatments vary by individual characteristics. A new systematic review would inform the update of APA's most recent (2001) recommendations on BPD.

Due to limited program resources, the program will not develop a review at this time. No further activity on this topic will be undertaken by the Effective Health Care (EHC) Program.

Topic Brief

Topic Name: Borderline Personality Disorder

Topic #: 0718

Nomination Date: October 28, 2016

Topic Brief Date: January 17, 2017

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Conflict of Interest: None of the investigators have any affiliations or financial involvement that conflicts with the material presented in this report.

Summary of Key Findings:

- Appropriateness and importance: The nomination is both appropriate and important.
- Duplication: A new AHRQ review would not be duplicative. Although we identified several high-quality systematic reviews pertinent to the key questions, no single review or combination of reviews covered the full scope of the nomination
    - We identified 14 completed and in-process systematic reviews that addressed the effectiveness or comparative effectiveness of interventions for BPD (KQ1), two of which examined the effects of interventions by individual characteristics (KQ2). Of note, a 2012 Cochrane review addressed psychological therapies for BPD, and a 2011 AHRQ review examined BPD as one of several indications for off-label use of antipsychotics. This AHRQ review was assessed as "partly out of date" in May 2016, partially due the identification of new studies on the use of antipsychotics for BPD that had been published since 2011.
- Feasibility: A new AHRQ review is feasible.

    - *Size/scope of review:* We identified 45 total potentially relevant studies (38 related to KQ1 and 11 related to KQ2). These studies generally examined the effectiveness of either pharmacological or psychological treatments for BPD, although a few examined comparative effectiveness (for example, by examining treatment intensity, variations in a particular treatment, or different types of treatment), and a few examined combination treatment.
    - *Clinicaltrials.gov:* We identified 7 ongoing or recently completed studies on ClinicalTrials.gov, each of which examined the effectiveness of treatments for BPD (KQ1).
- Impact: A new AHRQ review may have high impact, due to a large evidence gap. The APA last published guidelines in 2001, and many of their recommendations were based on clinical experience alone. A 2015 Lancet article confirmed that the evidence base on the treatment of personality disorders is poor.
- Value: The nomination has a high value potential, given that APA will use a new AHRQ systematic review to update their 2001 guidelines. This organization has previously produced high-quality evidence-based guidelines, and is transparent about its methodology.

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Introduction

Borderline personality disorder (BPD) is a serious mental disorder characterized by unstable moods, self-images, behaviors, and relationships.[1] BPD is the most common personality disorder, with a lifetime prevalence between 0.5% and 5.9% in the general U.S. population.[2] Individuals with BPD have impaired social, occupational, and role functioning. They experience extreme reactions, distorted self-image, and intense anger, and have high rates of self-destructive behavior including suicide attempts and completed suicides.[3] Psychotherapy with symptom-targeted pharmacotherapy is the recommended treatment,[3] as there are currently no medications that carry a Food and Drug Administration (FDA) approved indication for treatment of BPD .

Topic nomination *#0718 Borderline Personality Disorder* was originally submitted by the American Psychiatric Association (APA) on November 17, 2014 as Topic #0623. On January 28, 2015, the Topic Triage group voted that this topic go forward to become a systematic review. However, AHRQ made a programmatic decision not to fund the review due to resource constraints and encouraged the APA to re-nominate the topic during a future funding cycle.

APA re-nominated the topic on October 28, 2016. This review would be focused on the symptoms of affective dysregulation, including impulsive-behavioral dyscontrol, which APA feels is most likely to be associated with negative psychosocial and other health outcomes. We revised the questions slightly based on the specific populations, interventions, comparators and outcomes of interest. The questions for this nomination are:

Key Question 1. For adults with BPD, what is the effectiveness and comparative effectiveness of pharmacological, non-pharmacological, and combination treatments for affective dysregulation symptoms and lack of impulse control?

Key Question 2. For adults with BPD, does the effectiveness and comparative effectiveness of pharmacological, non-pharmacological, and combination treatments vary by individual characteristics?

To define the inclusion criteria for the key questions we specify the population, interventions, comparators, and outcomes (PICOs) of interest. See Table 1.

Table 1. Key Questions and PICOS "

Key Questions	1. For adults with BPD, what is the effectiveness and comparative effectiveness of pharmacological, non-pharmacological, and combination treatments for affective dysregulation symptoms and lack of impulse control?	2. For adults with BPD, does the effectiveness and comparative effectiveness of pharmacological, non-pharmacological, and combination treatments vary by individual characteristics, including: a) Age b) Sex c) Race/ethnicity d) SES e) Time since illness onset f) Prior treatment history g) Degree of treatment resistance h) Co-occurring disorders (eg, medical, substance use and other psychiatric disorders) i) History of trauma or abuse
Population	Adults with BPD	Adults with BPD
Interventions	Pharmacological treatments • Antipsychotics [eg, first generation (flupenthixol decanoate, haloperidol, thiothixene, perphenazine) and second generation (aripiprazole, ziprasidone, olanzapine, quetiapine, risperidone, paliperidone, iloperidone, lurasidone, asenapine, clozapine, brexpiprazole)] • Mood stabilizers [eg, valproate, divalproex, valproic acid, topiramate, lamotrigine, carbamazepine] • Antidepressants, including SSRIs[eg, citalopram, escitalopram, sertraline, paroxetine,fluoxetine, fluvoxamine,], SNRIs [venlafaxine, desvenlafaxine, duloxetine, levomilnacipran], monoamine oxidase inhibitors [phenelzine, tranylcypromine] and other [bupropion, mirtazepine, vilazodone, vortioxetine, mirtazapine, nefazodone] • Other [trazodone, naltrexone, benzodiazepines (especially lorazepam, clonazepam and alprazolam) and buspirone] Non-pharmacological treatments • Psychotherapy • Psychoeducation • Other psychosocial interventions [eg, social support interventions, etc]	Pharmacological treatments • Antipsychotics [eg, first generation (flupenthixol decanoate, haloperidol, thiothixene, perphenazine) and second generation (aripiprazole, ziprasidone, olanzapine, quetiapine, risperidone, paliperidone, iloperidone, lurasidone, asenapine, clozapine, brexpiprazole)] • Mood stabilizers [eg, valproate, divalproex, valproic acid, topiramate, lamotrigine, carbamazepine] • Antidepressants, including SSRIs[eg, citalopram, escitalopram, sertraline, paroxetine,fluoxetine, fluvoxamine,], SNRIs [venlafaxine, desvenlafaxine, duloxetine, levomilnacipran], monoamine oxidase inhibitors [phenelzine, tranylcypromine] and other [bupropion, mirtazepine, vilazodone, vortioxetine, mirtazapine, nefazodone] • Other [trazodone, naltrexone, benzodiazepines (especially lorazepam, clonazepam and alprazolam) and buspirone] Non-pharmacological treatments • Psychotherapy • Psychoeducation • Other psychosocial interventions [eg, social support interventions, etc] • Electroconvulsive therapy

	• Electroconvulsive therapy • Transcranial magnetic stimulation Combination therapy	• Transcranial magnetic stimulation Combination therapy
Comparators	a. Effectiveness: Placebo, sham procedure, wait-list control, treatment as usual, or other control b. Comparative effectiveness by intervention: Pharmacological treatment, non-pharmacological treatment, or a combination c. Comparative effectiveness by setting (ie, hospitalization, partial hospitalization and intensive outpatient treatment]	a. Effectiveness: placebo, sham procedure, wait-list control, treatment as usual, or other control b. Comparative effectiveness by intervention: pharmacological treatment, non-pharmacological treatment, or a combination c. Comparative effectiveness by setting (ie, hospitalization, partial hospitalization and intensive outpatient treatment]
Outcomes	• Response or reduction in target symptoms (including depressive symptoms, anxiety symptoms, affective regulation, anger, and impulse control) • Agitation or aggressive behaviors • Social functioning • Occupational functioning • Health-related quality of life • Hospitalizations (both psychiatric and all-cause) • Suicide and suicide attempts • Overdose • Other forms of self-harm • Improvement or worsening of co-occurring disorders [eg, depressive disorders, anxiety disorders, bipolar disorders, PTSD, alcohol or substance use disorders] • Harms [eg, side effects specific to medications, discontinuation rates due to adverse events, increase in symptoms such as mania, impulsivity, and anxiety]	• Response or reduction in target symptoms (including depressive symptoms, anxiety symptoms, affective regulation, anger, and impulse control) • Agitation or aggressive behaviors • Social functioning • Occupational functioning • Health-related quality of life • Hospitalizations (both psychiatric and all-cause) • Suicide and suicide attempts • Overdose • Other forms of self-harm • Improvement or worsening of co-occurring disorders [eg, depressive disorders, anxiety disorders, bipolar disorders, PTSD, alcohol or substance use disorders] • Harms [eg, side effects specific to medications, discontinuation rates due to adverse events, increase in symptoms such as mania, impulsivity, and anxiety]
Setting	Both inpatient and outpatient settings	Both inpatient and outpatient settings

Abbreviations: BPD= Borderline personality disorder; PTSD=Post-Traumatic Stress Disorder; SES=Socioeconomic status; SNRI=Serotonin-norepinephrine Reuptake Inhibitor; SSRI=Selective serotonin Reuptake Inhibitor

Methods

To assess topic nomination *#0718 Borderline Personality Disorder* for priority for a systematic review or other AHRQ EHC report, we used a modified process based on established criteria. Our assessment is hierarchical in nature, with the findings of our assessment determining the need for further evaluation. Details related to our assessment are provided in Appendix A.

1. " Determine the *appropriateness* of the nominated topic for inclusion in the EHC program.
2. " Establish the overall *importance* of a potential topic as representing a health or " healthcare issue in the United States. "
3. " Determine the *desirability of new evidence review* by examining whether a new " systematic review or other AHRQ product would be duplicative. "
4. " Assess the *potential impact* a new systematic review or other AHRQ product.
5. " Assess whether the *current state of the evidence* allows for a systematic review or other AHRQ product (feasibility).
6. " Determine the *potential value* of a new systematic review or other AHRQ product.

Appropriateness and Importance

We assessed the nomination for appropriateness and importance (see Appendix A).

Desirability of New Review/Duplication

We searched for high-quality, completed or in-process evidence reviews pertaining to the key questions of the nomination. Table 2 includes the citations for the reviews that were determined to address the key questions.

Impact of a New Evidence Review

The impact of a new evidence review was assessed by analyzing the current standard of care, the existence of potential knowledge gaps, and practice variation. We considered whether a new review could influence the current state of practice through various dissemination pathways (practice recommendation, clinical guidelines, etc.). See Appendix A.

Feasibility of New Evidence Review

We reviewed the studies from the previous topic brief (Topic #0623) and conducted a gap literature search in PubMed and PsycInfo from 2015-2016. The previous topic brief identified more than 300 studies published between 2005-2015 that were potentially relevant, but only discussed the first 40 that they determined to be relevant. We reviewed the list of 40 relevant studies and included 13 in this report. Studies that we excluded were either published before 2011 or examined symptoms of BPD that were not the focus of this review.

We reviewed all identified titles and abstracts for inclusion and classified identified studies by study design, to assess the size and scope of a potential evidence review. See Table 2, Feasibility Column, Size/Scope of Review Section for the citations of included studies. We also searched Clinicaltrials.gov for recently completed or in-process unpublished studies. See Appendix B for the PubMed and PsycInfo search strategy and links to the ClinicalTrials.gov search.

Value

We assessed the nomination for value (see Appendix A). We considered whether a partner organization could use the information from the proposed evidence review to facilitate evidence-based change; or the presence of clinical, consumer, or policymaking context that is amenable to evidence-based change.

Compilation of Findings
We constructed a table outlining the selection criteria as they pertain to this nomination (see Appendix A).

Results

Appropriateness and Importance
This is an appropriate and important topic. BPD is the most common personality disorder, with a lifetime prevalence between 0.5% and 5.9%.[2] Individuals with BPD have impaired social, occupational, and role functioning and experience extreme reactions, distorted self-image, and intense anger, and have high rates of self-destructive behavior including suicide attempts and completed suicides.[3] In addition, individuals with BPD are high utilizers of health care, especially ED visits and hospitalizations. A German study found that the cost of treating each patient with BPD was 11,817 Euros ($12,364) for the 2 years after diagnosis, which was almost twice the cost of treating a patient with MDD.[4]

Desirability of New Review/Duplication
A new AHRQ review would not be duplicative of an existing product. Although we identified several high-quality systematic reviews, no single review or combination of reviews covered the full scope of the nomination.

We identified 14 completed and in-process systematic reviews[5-15] that addressed the effectiveness or comparative effectiveness of treatments for BPD (KQ1) and two[16-18] of which examined the effects of interventions by individual characteristics (KQ2). Of note, a 2012 Cochrane review[6] addressed psychological therapies for BPD, and a 2011 AHRQ review[5] examined BPD as one of several indications for off-label use of antipsychotics. The AHRQ review was assessed as "partly out of date" in May 2016, partially due the identification of studies on the use of antipsychotics for BPD that had been published since 2011.

See Table 2, Duplication column for the systematic review citations that were determined to address the key questions.

Impact of a New Evidence Review
A new AHRQ review may have high impact, due to a large evidence gap. The APA last published guidelines in 2001[3], and many of their recommendations were based on clinical experience alone. A 2015 Lancet article[19] confirmed that the evidence base on the treatment of personality disorders is poor.

Feasibility of a New Evidence Review
A new evidence review is feasible.

We identified 45 total relevant studies. These studies generally examined the effectiveness of either pharmacological or psychological treatments for BPD, although a few examined comparative effectiveness (for example, by examining treatment intensity,[20] variations in a particular treatment,[21-23] or different treatments altogether[24]) and a few examined combination therapy.[25,26] Thirty-eight studies examined the effectiveness and comparative effectiveness of interventions for BPD (KQ1), including 16 RCTs,[21,23,24,27-40]16 observational studies,[20,25,41-56] 3 study protocols,[22,57,58] and one study[59] that conducted a secondary data analysis. We also identified 11 studies that examined the effects of interventions for BPD by individual characteristics (KQ2), including 3 RCTs,[23,30,60] 4 observational studies,[47,51,61,62] and 4 studies that conducted a secondary data analysis.[26,59,63,64]

From our Clinicaltrials.gov search, we identified 3 active, recruiting[65,66], 1 active, not recruiting[67] and 4 recently completed studies [68-71] examining the effectiveness and comparative effectiveness of interventions (KQ1). We identified no studies examining the effects of interventions by individual characteristics (KQ2).

As a result of the previous topic brief's methods of only including the first 40 relevant studies, we cannot accurately estimate the size of a potential review; however, we anticipate that it would likely be larger than 45 studies. See Table 2, Feasibility column for the citations that were determined to address the key questions.

Table 2. Key questions with the identified corresponding evidence reviews and original research

Key Question	Duplication (Completed or In-Process Evidence Reviews)	Feasibility (Published and Ongoing Research)
1. Effectiveness and comparative effectiveness of pharmacological, non-pharmacological and combination treatments for BPD	Total number of completed or in-process evidence reviews: 14 • Pharmacological ○ AHRQ: 1[5] ○ Other: 5[8,12 9-11] ○ Other (in process): 1[16] • Non-pharmacological ○ Cochrane: 2[6,7] ○ Other: 3[13-15] ○ Other (in process): 2 [17,18]	<u>Size/scope of review</u> Total number of studies: 39 • Pharmacological: 4 ○ RCTs: 1[28] ○ Open-label: 2[45,46] ○ Pre-post: 1[54] • Non-pharmacological: 32 ○ RCTs:15[21,23,24,29-40] ○ Randomized trial: 4[20,41-43] ○ Controlled trial: 1[44] ○ Prospective cohort: 4[47-50] ○ Case-control: 2[52,53] ○ Case-series: 2[55,56] ○ Study protocol: 3[22,57,58] ○ Secondary data analysis: 1[59] • Combination: 3 ○ RCTs: 1[27] ○ Controlled trial: 1[25] ○ Prospective cohort: 1[51] <u>ClinicalTrials.Gov</u> Total number of studies: 7 • Non-pharmacological: 7 ○ Active, recruiting: 2[65,66] ○ Active, not recruiting: 1[67] ○ Completed: 4[68-71]
2. Does the effectiveness and comparative effectiveness of treatments vary by sub-population	Total number of completed or in-process evidence reviews: 2 • Pharmacological: 1 ○ Other: 1[12] • Nonpharmacological: ○ Other: 2[12,14]	<u>Size/scope of review</u> Total number of studies: 11 • Nonpharmacological ○ RCTs: 3[23,30,60] ○ Prospective cohort: 2[47,61] ○ Pre-post: 1[62] ○ Secondary data analysis: 3[59,63,64] • Combination ○ Prospective cohort: 1 [51] ○ Secondary data analysis: 1[26] <u>ClinicalTrials.Gov</u> None identified.

Abbreviations: AHRQ=Agency for Healthcare Research and Quality; BPD= Borderline Personality Disorder; RCT=Randomized Controlled Trial

Value

The nomination has a high value potential, given that APA will use a new AHRQ systematic review to update their 2001 guidelines. This organization has previously produced high-quality evidence-based guidelines, and is transparent about its methodology.

Summary of Findings

- Appropriateness and importance: The nomination is both appropriate and important.
- Duplication: A new AHRQ review would not be duplicative. Although we identified several high-quality systematic reviews pertinent to the key questions, no single review or combination of reviews covered the full scope of the nomination
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- Feasibility: A new AHRQ review is feasible.
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    - *Clinicaltrials.gov:* We identified 7 ongoing or recently completed studies on ClinicalTrials.gov, each of which examined the effectiveness of treatments for BPD (KQ1).
- Impact: A new AHRQ review may have high impact, due to a large evidence gap. The APA last published guidelines in 2001, and many of their recommendations were based on clinical experience alone. A 2015 Lancet article confirmed that the evidence base on the treatment of personality disorders is poor.
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Appendices

Appendix A: Selection Criteria Summary (

Appendix B: Search Strategy & Results (Feasibility)

Appendix A. Selection Criteria Summary (

Selection Criteria	Supporting Data
1. Appropriateness	
1a. Does the nomination represent a health care drug, intervention, device, technology, or health care system/setting available (or soon to be available) in the U.S.?	Yes, this topic represents health care drugs and interventions available in the U.S. There are currently no medications that carry a Food and Drug Administration (FDA) approved indication for treatment of BPD. However, antipsychotics, antidepressants, and mood stabilizers are often used off-label for treating specific symptoms of BPD.
1b. Is the nomination a request for a systematic review?	Yes, this topic is a request for a systematic review.
1c. Is the focus on effectiveness or comparative effectiveness?	The focus of this review is on both effectiveness and comparative effectiveness.
1d. Is the nomination focus supported by a logic model or biologic plausibility? Is it consistent or coherent with what is known about the topic?	Yes, it is biologically plausible. Yes, it is consistent with what is known about the topic.
2. Importance	
2a. Represents a significant disease burden; large proportion of the population	Yes, this topic represents a significant burden. BPD is the most common personality disorder, with a lifetime prevalence between 0.5% and 5.9%.[2] Individuals with BPD have impaired social, occupational, and role functioning and experience extreme reactions, distorted self-image, and intense anger, and have high rates of self-destructive behavior including suicide attempts and completed suicides.[3]
2b. Is of high public interest; affects health care decision making, outcomes, or costs for a large proportion of the US population or for a vulnerable population	Yes, this topic affects heath care decisions for a large, vulnerable population.
2c. Represents important uncertainty for decision makers	Yes, this topic represents important uncertainty for decision makers.
2d. Incorporates issues around both clinical benefits and potential clinical harms	Yes, this nomination addresses both benefits and potential harms of pharmacological, nonpharmacological, and combination treatments for BPD.
2e. Represents high costs due to common use, high unit costs, or high associated costs to consumers, to patients, to health care systems, or to payers	Yes, patients with BPD are high utilizers of health care, especially ED visits and hospitalizations. A German study found that the cost of treating each patient with BPD was 11,817 Euros ($12,364) for the 2 years after index diagnosis, which was almost twice the cost of treating a patient with MDD.[4]
3. Desirability of a New Evidence Review/Duplication	
3. Would not be redundant (i.e., the proposed topic is not already covered by available or soon-to-be available high-quality systematic review by AHRQ or others)	A new review would not be duplicative. We identified 14 completed and in-process systematic reviews[5-15] that addressed the effectiveness or comparative effectiveness of treatments for BPD (KQ1), two[16-18] of which examined the effects of interventions by individual characteristics (KQ2). However, no single review covered the full scope of the nomination. Of note, a 2012 Cochrane review[6] addressed psychological therapies for BPD, and a 2011 AHRQ review[5] examined BPD as one of several indications for off-label use of antipsychotics. The AHRQ review was assessed as “partly out of date” in May 2016, partially due the identification of studies on

	the use of antipsychotics for BPD that had been published since 2011.
4. Impact of a New Evidence Review	
4a. Is the standard of care unclear (guidelines not available or guidelines inconsistent, indicating an information gap that may be addressed by a new evidence review)?	The standard of care is clear; however, the APA's practice recommendations were published 16 years ago and many of the recommendations are based on clinical experience alone.
4b. Is there practice variation (guideline inconsistent with current practice, indicating a potential implementation gap and not best addressed by a new evidence review)?	Yes, there is practice variation in the use of pharmacological treatments of BPD in particular.
5. Primary Research	
5. Effectively utilizes existing research and knowledge by considering: - Adequacy (type and volume) of research for conducting a systematic review - Newly available evidence (particularly for updates or new technologies)	A new review is feasible. Size/scope of the review: We identified 45 total relevant studies. These studies generally examined the effectiveness of either pharmacological or psychological treatments for BPD, although a few examined comparative effectiveness (for example, by examining treatment intensity,[20] variations in a particular treatment,[21-23] or different treatments altogether[24]) and a few examined combination therapy.[25,26] Thirty-eight studies were pertinent to KQ1, including 16 RCTs,[21,23,24,27-40]16 observational studies,[20,25,41-56] 3 study protocols,[22,57,58] and one study[59] that conducted a secondary data analysis. We also identified 11 studies pertinent to KQ2, including 3 RCTs,[23,30,60] 4 observational studies,[47,51,61,62] and 4 studies that conducted a secondary data analysis.[26,59,63,64] As a result of the previous topic brief's methods of only including the first 40 relevant studies, we cannot accurately estimate the size of a potential review; however, we anticipate that it would likely be larger than 44 studies. Clinicaltrials.gov: We identified 3 active, recruiting[65,66], 1 active, not recruiting[67] and 4 recently completed studies [68-71] KQ1. We identified no studies pertinent to KQ2.
6. Value	
6a. The proposed topic exists within a clinical, consumer, or policy-making context that is amenable to evidence-based change	Yes, this proposed topic exists within a clinical context that is amenable to evidence-based change.
6b. Identified partner who will use the systematic review to influence practice (such as a guideline or recommendation)	Yes, the APA will use a systematic review to update their 2001 clinical practice guidelines on BPD.

Abbreviations: AHRQ=Agency for Healthcare Research and Quality; APA= American Psychiatric Association; BPD= Borderline personality disorder; ED= Emergency Department; KQ=Key Question; MDD= Major Depressive Disorder; RCT=Randomized controlled trial

Appendix B. Search Strategy & Results (Feasibility)

Topic: Treatments for Borderline Personality Disorder Date: December 1, 2016 Database Searched: MEDLINE (PubMed)	
Concept	Search String
Borderline Personality Disorder	("Borderline Personality Disorder"[Mesh]) OR (("borderline personality disorder"[Title/Abstract] OR BPD[Title/Abstract]))
AND	
Treatments, general	(("Therapeutics"[Mesh] OR "therapy" [Subheading])) OR ((therapy[Title/Abstract] OR therapeutics[Title/Abstract] OR treatment[Title/Abstract] OR recovery[Title/Abstract]))
OR	
Treatments, named Antipsychotics Mood stabilizers Antidepressants Drug therapy Psychotherapy Psychoeducation Social support interventions Electroconvulsive Therapy Transcranial Magnetic Stimulation Device Combined/combination/mixed therapy	((((((("Antipsychotic Agents"[Mesh] OR "Antipsychotic Agents" [Pharmacological Action])) OR ("Antidepressive Agents"[Mesh] OR "Antidepressive Agents" [Pharmacological Action])) OR ("Drug Therapy"[Mesh] OR "drug therapy" [Subheading])) OR "Psychotherapy"[Mesh]) OR (("Social Support"[Mesh]) OR ("Electroconvulsive Therapy"[Mesh] OR "Transcranial Magnetic Stimulation"[Mesh]))) OR ((antipsychotic[Title] OR "mood stabilizer"[Title] OR antidepressant[Title] OR psychotherapy[Title] OR psychoeducation[Title] OR "social support"[Title] OR electroconvulsive[Title] OR "transcranial magnetic"[Title] OR combined[Title] OR combination[Title] OR mixed[Title]))
NOT	
Not Editorials, etc.	((((((("Letter"[Publication Type]) OR "News"[Publication Type]) OR "Patient Education Handout"[Publication Type]) OR "Comment"[Publication Type]) OR "Editorial"[Publication Type])) OR "Newspaper Article"[Publication Type]
Limit to last 5 years ; human ; English ; Adults	Filters activated: published in the last 5 years, Humans, English, Adult: 19+ years.
N=632	
Systematic Review N=17	PubMed subsection “Systematic [sb]”
Randomized Controlled Trials N=249	Cochrane Sensitive Search Strategy for RCT’s “(((((((((groups[tiab])) OR (trial[tiab])) OR (randomly[tiab])) OR (drug therapy[sh])) OR (placebo[tiab])) OR (randomized[tiab])) OR (controlled clinical trial[pt])) OR (randomized controlled trial[pt])”
Other N=366	

Topic: Treatments for Borderline Personality Disorder Date: December 1, 2016 Database Searched: PsycINFO (EBSCOhost)	
Concept	Search String
Borderline Personality Disorder	DE "Borderline Personality Disorder" OR TI "borderline personality disorder" OR TI bpd
AND	
Treatment	DE "Treatment" OR DE "Adjunctive Treatment" OR DE "Adventure Therapy" OR DE "Aftercare" OR DE "Alternative Medicine" OR DE "Behavior Modification" OR DE "Bibliotherapy" OR DE "Cognitive Techniques" OR DE

	"Computer Assisted Therapy" OR DE "Creative Arts Therapy" OR DE "Crisis Intervention Services" OR DE "Cross Cultural Treatment" OR DE "Disease Management" OR DE "Health Care Services" OR DE "Hydrotherapy" OR DE "Interdisciplinary Treatment Approach" OR DE "Involuntary Treatment" OR DE "Language Therapy" OR DE "Life Sustaining Treatment" OR DE "Medical Treatment (General)" OR DE "Milieu Therapy" OR DE "Movement Therapy" OR DE "Multimodal Treatment Approach" OR DE "Multisystemic Therapy" OR DE "Online Therapy" OR DE "Outpatient Treatment" OR DE "Pain Management" OR DE "Partial Hospitalization" OR DE "Personal Therapy" OR DE "Physical Treatment Methods" OR DE "Preventive Medicine" OR DE "Psychotherapeutic Techniques" OR DE "Psychotherapy" OR DE "Rehabilitation" OR DE "Relaxation Therapy" OR DE "Sex Therapy" OR DE "Social Casework" OR DE "Sociotherapy" OR DE "Speech Therapy" OR DE "Symptoms Based Treatment" OR DE "Treatment Guidelines" OR DE "Therapeutic Processes" OR DE "Psychotherapeutic Processes" OR TI therapy OR TI therapeutic OR TI treatment OR TI recovery
Limit to last 5 years ; English ; Adult	Limiters - Publication Year: 2011-2016 Narrow by SubjectAge: - adulthood (18 yrs & older) Narrow by Language: - english
N=285	
Systematic Review N=5	Narrow by Methodology: - literature review
Randomized Controlled Trials N=98	Narrow by Methodology: - clinical trial Narrow by Methodology: - treatment outcome Narrow by Methodology: - clinical case study
Other N=186	

Clinicaltrials.gov
14 studies found for: Recruiting | borderline personality disorder | Adult, Senior | Studies received from 12/01/2011 to 12/01/2016
https://clinicaltrials.gov/ct2/results?term=&type=&rslt=&recr=Recruiting&age_v=&age=1&age=2&gndr=&cond=borderline+personality+disorder&intr=&titles=&outc=&spons=&lead=&id=&state1=&cntry1=&state2=&cntry2=&state3=&cntry3=&locn=&rcv_s=12%2F01%2F2011&rcv_e=12%2F01%2F2016&lup_s=&lup_e=

2 studies found for: Active, not recruiting | borderline personality disorder | Adult, Senior | Studies received from 12/01/2011 to 12/01/2016
https://clinicaltrials.gov/ct2/results?term=&type=&rslt=&recr=Active%2C+not+recruiting&age_v=&age=1&age=2&gndr=&cond=borderline+personality+disorder&intr=&titles=&outc=&spons=&lead=&id=&state1=&cntry1=&state2=&cntry2=&state3=&cntry3=&locn=&rcv_s=12%2F01%2F2011&rcv_e=12%2F01%2F2016&lup_s=&lup_e=

15 studies found for: Completed | borderline personality disorder | Adult, Senior | Studies received from 12/01/2011 to 12/01/2016
https://clinicaltrials.gov/ct2/results?term=&type=&rslt=&recr=Completed&age_v=&age=1&age=2&gndr=&cond=borderline+personality+disorder&intr=&titles=&outc=&spons=&lead=&id=&state1=&cntry1=&state2=&cntry2=&state3=&cntry3=&locn=&rcv_s=12%2F01%2F2011&rcv_e=12%2F01%2F2016&lup_s=&lup_e=